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PATENT

Practitioner's Docket No. 5713-2

Preliminary Classification:

Proposed Class:

Subclass:

JC925 U.S. PTO
09/680172
10/05/00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Remi SWIERCZEK

For (title): MUSIC IDENTIFICATION SYSTEM

CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) AND 1.10*

*(When using Express Mail, the Express Mail label number is mandatory;
Express Mail certification is optional.)*

I hereby certify that, on the date shown below, this correspondence is being:

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37 C.F.R. Section 1.8(a)

37 C.F.R. Section 1.10*

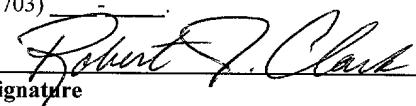
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TRANSMISSION

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Date: October 5, 2000



Signature

Robert J. Clark

(type or print name of person certifying)

***WARNING:** *Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. Section 1.10(b).*

"Since the filing of correspondence under [Section] 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

1. Type of Application

This transmittal is for an original (nonprovisional) application.

2. Papers Enclosed

A. Required for filing date under 37 C.F.R. 1.53(b) (Regular) or 37 C.F.R. 1.153 (Design) Application

6 Page(s) of Specification

4 Page(s) of Claims

6 Sheet(s) of Drawing(s)-Informal

B. Other Papers Enclosed

1 Page(s) of abstract

3. Declaration or Oath

Not Enclosed.

Application is made by a person authorized under 37 C.F.R. Section 1.41(c) on behalf of the above-named inventor.

4. Inventorship Statement

The inventorship for all the claims in this application is the same.

5. Language

English

6. Fee Calculation (37 C.F.R. Section 1.16)

Regular Application

CLAIMS AS FILED

Claims	Number Filed	Basic Fee Allowance	Number Extra	Rate	Basic Fee 37 CFR 1.16(a) \$710.00
Total Claims (37 CFR 1.16(c))	19	- 20 =	0 x	\$18.00	\$0.00
Independent Claims (37 CFR 1.16(b))	5	- 3 =	2 x	\$80.00	\$160.00
Multiple Dependent Claim(s), if any (37 CFR 1.16(d))			+	\$270.00	\$0.00
Filing Fee Calculation					\$870.00

7. Small Entity Statement(s)

Status as small entity was claimed in prior application 60/158,087, filed on October 7, 1999, from which benefit is being claimed for this application under 35 U.S.C. SECTION 119(e), and which status as a small entity is still proper and desired.

A copy of the statement in the prior application is included.

Filing Fee Calculation (50% of above) \$435.00

8. Fee Payment Being Made at This Time

Enclosed

Filing Fee	\$435.00
Total Fees Enclosed	\$435.00

9. Method of Payment of Fees

Check in the amount of \$435.00 is attached.

10. Instructions as to Overpayment

Credit Account No. 15-0450.

**ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF
PRIOR U.S. APPLICATIONS CLAIMED**

11. Relate Back

Amend the specification by inserting, before the first line, the following sentence:

A. 35 U.S.C. Section 119(e)

This application claims the benefit of U.S. Provisional Application Nos.:

APPLICATION NO.	FILING DATE
60/158,087	10/07/1999
60/186,565	03/02/2000

12. Small Entity (37 C.F.R. Section 1.28(a))

Applicant has established small entity status by the filing of a statement in parent application 60/158,087 on October 7, 1999.

A copy of the statement previously filed is included.

Date: October 5, 2000

Reg. No.: 45,835
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Signature of Practitioner

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Swierczek, Remi

Application No.:

Filed on:

Title: MUSIC IDENTIFICATION SYSTEM

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(b)—INDEPENDENT INVENTOR**

As a below named inventor, I hereby state that I qualify as an independent inventor, as defined in 37 CFR 1.9(c), for purposes of paying reduced fees to the United States Patent and Trademark Office under Sections 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office, with regard to the invention described in the specification filed herewith, with title as listed above.

I have not assigned, granted, conveyed or licensed, and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c), if that person had made the invention, or to any concern that would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

No person, concern or organization exists to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention.

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Remi Swierczek

Signature of Inventor

Date

10/18/99

MUSIC IDENTIFICATION SYSTEM

Field of the Invention

This invention relates to a music identification system, specifically to a method for marking the time and the name of the radio station in portable device such as a key holder, watch, cellular phone, beeper or the like which will allow the user to learn via internet or regular telephone the name of the song, artist and/or music company by matching the stored data with broadcast archive. The system will allow for purchase of identified segment.

Background of the Invention

Often a person hears a song, or part of a song that they would like to buy but they are unfamiliar with the name of the song or the singer. The music could be on a car radio or any other places where you might hear music. Even if you had the means to copy a segment of the music, you would still need to find someone familiar with the song to enable you to find and purchase the recording. With the number of musical recordings available, this could be an impossible task unless the song is known or popular. More often than not, the song is forgotten and perhaps never heard again. This represents lost sales to the recording industry and lost entertainment to the potential customer. As such, there is a need for a system allowing a person to learn who and what was playing on a given radio station at a specific time.

Summary of Invention

An object of this invention is to provide the listener with convenient means to record the name of radio station and time when the wanted music was played. Another object of this invention is a system that receives the recorded data via phone or internet modem and searches the radio station archives to inform the listener regarding the name of the artist, album or producer.

Another object of the present invention is an apparatus or system that can provide purchasing information and allow the user to directly order the item.

Another object of this invention is to provide the listener with convenient means to record a segment of the music in which he/she is interested.

Another object of this invention is a system where the recorded music segment is played back into an apparatus which can identify the song based on the play back and provide the user with information on the identified song such as title, singer or artist, composer, producer, etc.

These along with other objects and advantages of the present invention will become more 5 readily apparent from a reading of the detailed description taken in conjunction with the drawings and the claims.

Brief Description of the Drawings

Fig. 1 shows a flow chart of one embodiment of the music identification method of the 10 present invention;

Fig. 2 shows a top perspective view of a keychain recording device according to an embodiment of the present invention;

Fig. 3 shows a perspective view of a kiosk computer system according to an embodiment of the present invention;

Fig. 4 shows a flow chart of the computer identification process of an embodiment of the present invention;

Fig. 5 shows a flow chart of the music identification process of another embodiment of the present invention; and

Fig. 6 shows a top perspective view of a recording device according to an embodiment of the present invention.

Description of Preferred Embodiments

Embodiments of the present invention are explained in detail hereunder referring to the drawings. In one embodiment, the recording device will be a key chain (similar to the one shown 25 in FIG. 1), a watch, a cellular telephone, a beeper or a like device allowing for verbal recording. Referring now to the flowchart depicted in FIG. 5 and the recording device of FIG. 6, the recording device 70 is used by pressing a button 72 to record the name of the radio station in a simple word 62 and then pressing a button 74 that will record actual time of recording or optionally the time can be verbally recorded by the user 64 using microphone 76, for example,

"w w d k nine one point seven Cleveland" or "nine nine point four Pittsburgh". Recording in simple words describing the numbers, letters, and city names will allow for standard computer recognition of transferred data into the system.

5 In another embodiment, the recording device 70 will have a telephone like key pad 78 (not required for the cellular telephone) allowing the user to enter in to the memory numbers identifying the radio station and the numeral city code 62.

10 In both cases, the device would have a telephone beeper or speaker 80 allowing for simpler data transfer 66 into the processing system (no modem or access to the computer required). The user can lift a telephone receiver and press send or transmit button 82 to automatically dial the proper 800# (or 888#), user ID number, and recorded station information.

15 The feedback 68 allowing for purchase of wanted and unknown music would arrive to the user via e-mail or through regular mail via an automatically generated and printed post card.

20 In another embodiment, new digital radio manufacturers would provide for a "signal port" 84 on the face of the radio receiver (mechanical electronic connector or infrared port). This would allow for digital recording of the sample of played music by plugging the device into the port or by infrared data transfer holding the device near the port.

25 In this case, automatic matching with digital music files would allow for recognition of wanted music without access into the radio station archives. The drawback would be a requirement to transfer the samples digitally via modem.

Referring now to Fig. 1, a flow chart shows the method of the present invention comprising the steps of recording a music segment 50, transmitting a playback of the recorded music segment into a microphone 52, identifying the recorded music segment 54, reporting information related to the identified music segment 56, providing options 58 to obtain additional related information or to obtain an identification of another recorded music segment, and providing purchasing information 60 including the means to direct order the selected musical works. The steps are described in detail below.

Referring now to Fig. 2, a recording device 20 is shown attached to a keychain 15. The recording device 20 can be either digital or analog. The recording device 20 can be of any known type or configuration, which is convenient to store on a person, in a pocket or purse such.

With the continuing miniaturization of chips, the recording device 20 could easily be configured as a credit card or any other configuration, which is typically carried by a person on a continuous basis. When a song that the user wants identified is playing, the user need only press the record button 22 on device 20 and hold the microphone 24 of the device near the source of the music.

5 When a sufficient segment is recorded 50, the user presses the stop button 26 to end the recording. The song can be replayed by pressing the back (digital) or rewind (analog) button 28 and then pressing the play button 30 and listening to the speaker 32. Any device capable of recording and playing back a music segment would be acceptable for use with the present invention.

10 Referring now to Figure 3, once a segment of music has been recorded 50, the listener can go to a computer or music identification kiosk 10 having a computer interface 12 and replay or transmit the music 52 into a microphone 14 of the interface. In one embodiment, the interface 12 is connected to an automated database 16 over the Internet. The automated database 16 uses a central processing unit and search stored information as known in the art to analyze the music segment and compare it to stored works until a match, matches or near matches are found and the music segment is identified 54. One such system is disclosed in U.S. Patent No. 5,918,223 although other systems and searchable audio databases as are known in the art may be used. It is important to note that the identification step 54 performed by the automated database 16 could just as easily be one or more music "experts" or disc jockeys seated in a room that listen to the recorded music segment and identify the song based on their memory and knowledge of music.

15 Once the music segment is identified 54, the information related to the song, i.e. title, artist, etc., could be supplied to the customer 56 directly or entered into the automated database where the information, and any specified related information is supplied to the customer 56.

20

It is also contemplated that the user can access the automated database 16 directly over the telephone. The user would call a specified number and follow instructions provided by the automated database 16. When prompted, the user can playback the music segment 52 into the telephone microphone. The automated database 16 would then identify the music segment and report the results back over the telephone 56. The telephone access to the automated database is configured to allow additional related information and options 58 to be accessed, including

ordering information 60, just as with the other embodiments.

Often, the quality of the recorded music segment may be poor as the recorder may also record background noise from other sources such as the car engine, noise from other cars, people talking, etc. The automated database system 16 includes noise reduction filters (not shown) as known in the art, to filter out any background noise in the recording which may inhibit the system from finding a match. In one embodiment, the automated database 16 will search and identify at least one characteristic of the song, such as the melody, and retrieve all songs which match the particular identified characteristic. The search would thus retrieve a song or melody produced by various artists or different recordings produced by the same artist at different times.

However, it is contemplated that the database 16 is capable of recognizing specific artists. The database 16 can provide the user with information on the identified song such as title, singer or artist, composer, producer, etc. which can be browsed or selected from a video monitor screen 38 using either a touch-screen or control buttons 40. It is contemplated that in addition to the song from the music segment, the user will have additional options 58 such as, but not limited to, the ability to search for other works by the same artist, or the same song by different artists and be able to play portions of these works on a selectable basis through a speaker 34 or attached headphones 36. The user also has the option 58 of transmitting an additional music segment 52 to be identified 54. In certain embodiments, the automated database 16 may also provide the cost and/or location of the identified or selected music for purchase 60. If preferred, the user can order the selection through an ordering system 48 of the automated database 16 and pay by conventional means such as swiping a valid credit card through a scanner 18 attached to the computer interface 12. The database 16 may also provide the user with an additional music segment to confirm the identity of the segment initially supplied by the user.

It is contemplated that the automated database 16 can exist as a stand-alone unit within the music identification kiosk 10 either such that the database would be located on site or at a centralized computer located off-site. The automated database 16 would be updated on a periodic basis to include newly released music 44 and the latest price and availability 46. All new music would have a digital code in the background to allow for simple recognition software as is known in the art.

In a typical scenario, the kiosk 10 would be located in a retail store. Potential customers wanting to identify a music segment would be able to use the kiosk 10 to identify the music segment and locate the music within the store.

It will also be possible to directly access the automated database 16 directly from a
5 personal home computer 42 over the Internet.

CLAIMS

What is Claimed:

5 1. A method for purchasing a recorded music item comprising the following steps:

10 a) recording data related to a music item playing on a radio;

 b) transmitting said data to a music identification/purchasing system;

 c) receiving purchasing information from said music identification/purchasing system related to said music item;

 d) transmitting at least one music item selection and payment information to said music identification/purchasing system; and

 e) receiving said at least one music item selection.

15 2. The method for purchasing a recorded music item as recited in claim 1 further comprising the step, after step b and before step c, of identifying said music item by comparing the time said music item was recorded with a play list from a designated music station.

20 3. The method for purchasing a recorded music item as recited in claim 1, wherein said data includes at least a time, a date, and either a station frequency and a location of said station or a four letter station identification code.

25 4. The method for purchasing a recorded music item as recited in claim 1, wherein said data is transmitted to said music identification/purchasing system by means of the Internet.

5. The method for purchasing a recorded music item as recited in claim 1, wherein said data is transmitted to said music identification/purchasing system by means of a telephone.

6. The method for purchasing a recorded music item as recited in claim 1, wherein said purchasing information is received by means of the Internet.

7. The method for purchasing a recorded music item as recited in claim 1, wherein said purchasing information is received by mail.

5 8. The method for purchasing and recorded music item has recited in claim 1, wherein said step of receiving said at least one music item selection is accomplished over the Internet.

9. The method for purchasing and recorded music item has recited in claim 1, wherein said step of receiving said at least one music item selection is accomplished by mail.

10

10. A method for purchasing a recorded music item comprising the following steps:

- a) recording a segment of music playing on a radio;
- b) transmitting said recorded segment to a music identification/purchasing system;
- c) receiving purchasing information from said music identification/purchasing system;
- d) transmitting at least one music item selection and payment information to said music identification/purchasing system; and
- e) receiving said music item selection.

20 11. The method for purchasing a recorded music item as recited in claim 10 further comprising the step, after step b and before step c, of identifying said music item.

12. The method for purchasing a recorded music item as recited in claim 11, wherein said step of identifying said music item comprises the following steps:

25

- a) entering said recorded music item into a central processing unit;
- b) analyzing and comparing said recorded musical item to music contained in a database; and
- c) identifying a music selection providing the closest match to said recorded music item.

13. A process of identifying music comprising:

- a) providing a recorded musical segment;
- b) entering said musical segment into a central processing unit;
- c) analyzing and comparing said musical segment to a database of musical works;
- d) identifying at least one closest match; and
- e) generating database information regarding said at least one closest match.

14. A music identification/purchasing system comprising:

10 an interface having means for inputting recorded segment of music into a central processing unit;

15 wherein said central processing unit accesses a database containing music and musical information; and

16 wherein said segment is compared to said music contained in said database such that said segment can be identified;

17 and such information provided to a user through said interface.

18. A music identification/purchasing system comprising:

19 a means for storing information related to a selected musical work;

20 a means for identifying said selected musical work based on said information;

21 a means for providing information related to said selected musical work; and

22 a means for purchasing said selected musical work or an item related to said selected musical work.

25 16. The music identification/purchasing system as recited in claim 15, wherein said means for storing information related to a selected musical work comprises a recording device.

26 17. The music identification/purchasing system as recited in claim 15, wherein said means for identifying said selected musical work comprises a central processing unit accessing a

database containing information related to a plurality of musical works.

18. The music identification/purchasing system as recited in claim 15 wherein said means for providing information related to said selected musical work comprises a user interface.

5

19. The music identification/purchasing system as recited in claim 15, wherein said means for purchasing comprises an ordering system including price, availability, shipping method, and payment options.

Abstract of the Invention

The present invention relates to a music identification/purchasing system, specifically to a method for marking the time and the name of the radio station in portable device such as a key 5 holder, watch, cellular phone, beeper or the like which will allow the user to learn via internet or regular telephone the name of the song, artist and/or music company by matching the stored data with broadcast archive. The system will allow for purchase of the full length of the identified music item or related music. An alternate embodiment provides the listener with convenient means to record a segment of the music in which he/she is interested. The recorded music 10 segment is played back into an apparatus which can identify the song based on the play back and provide the user with information on the identified song such as title, singer or artist, composer, producer, etc., and provide related purchasing information. The user can make selections and provide payment data to the music identification/purchasing system which will result in the selections being delivered to the user by mail.

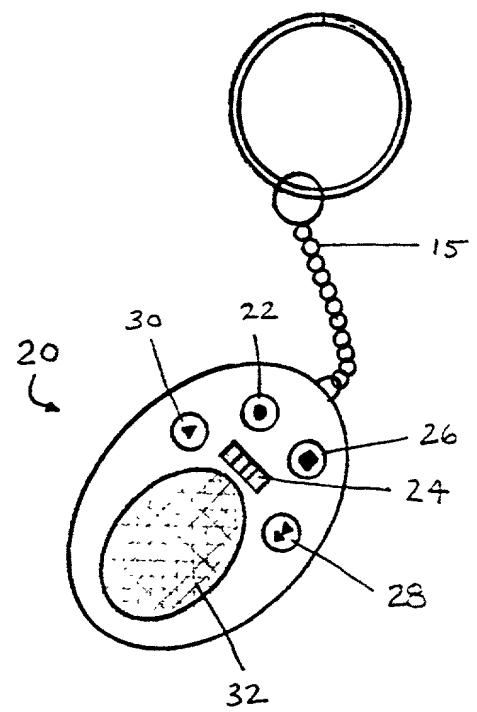


FIGURE 1

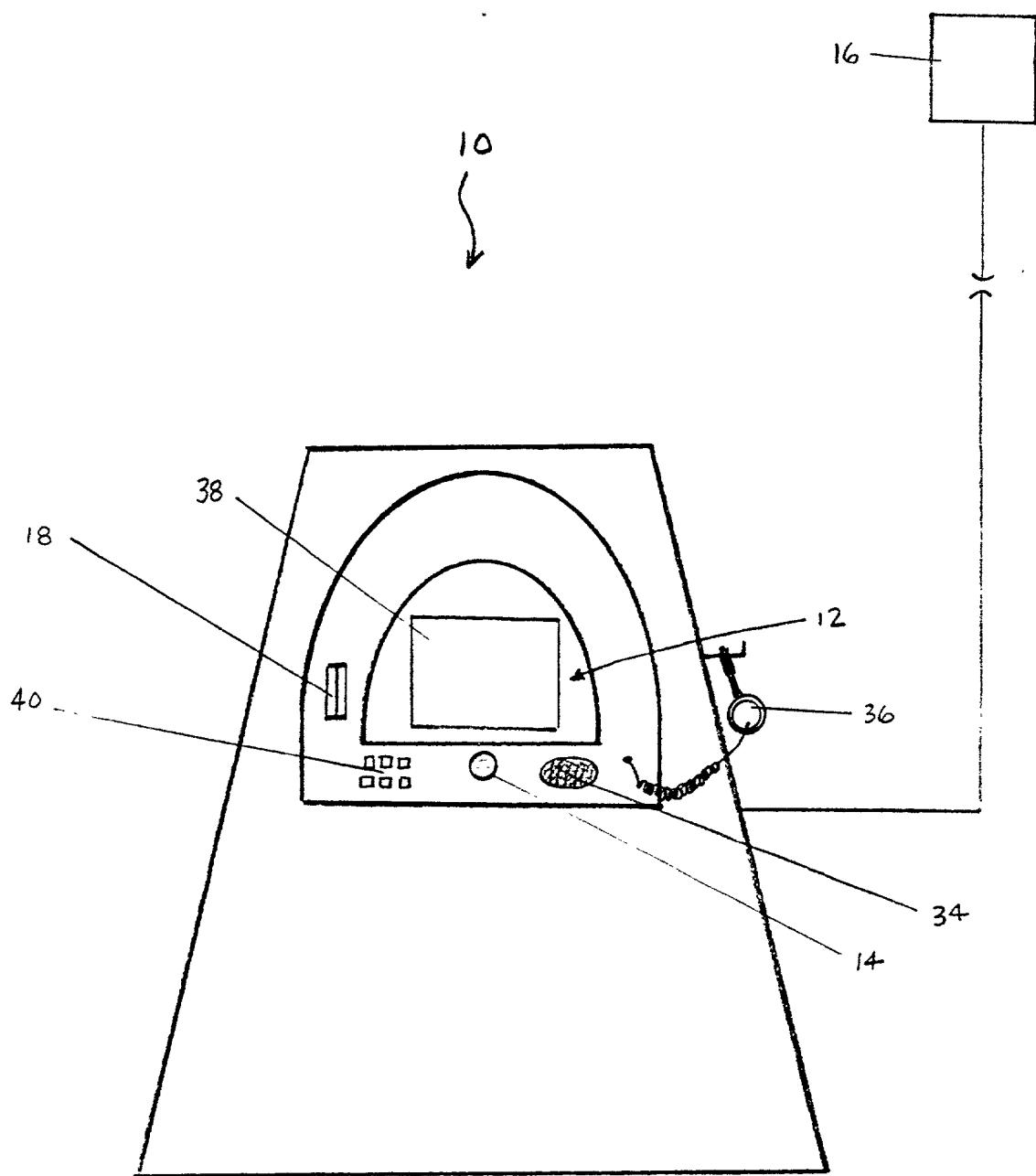


FIGURE 2

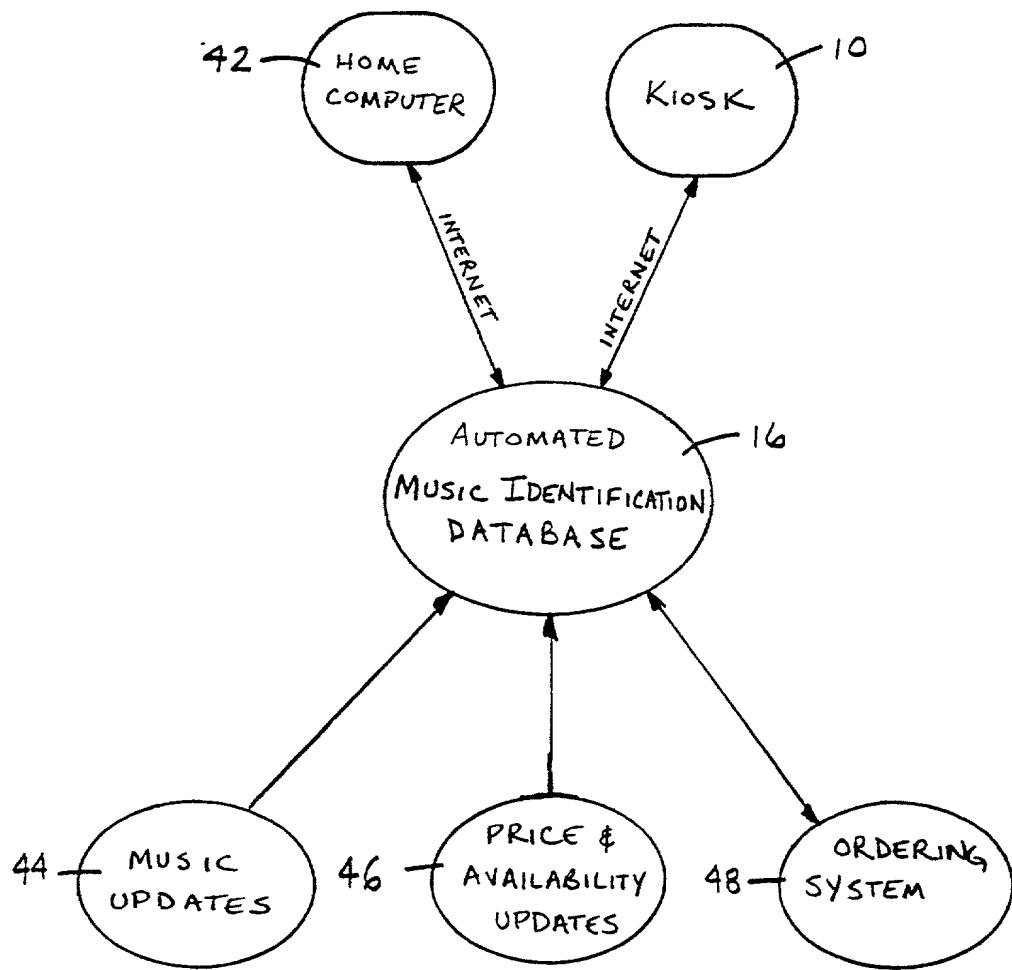


FIGURE 3

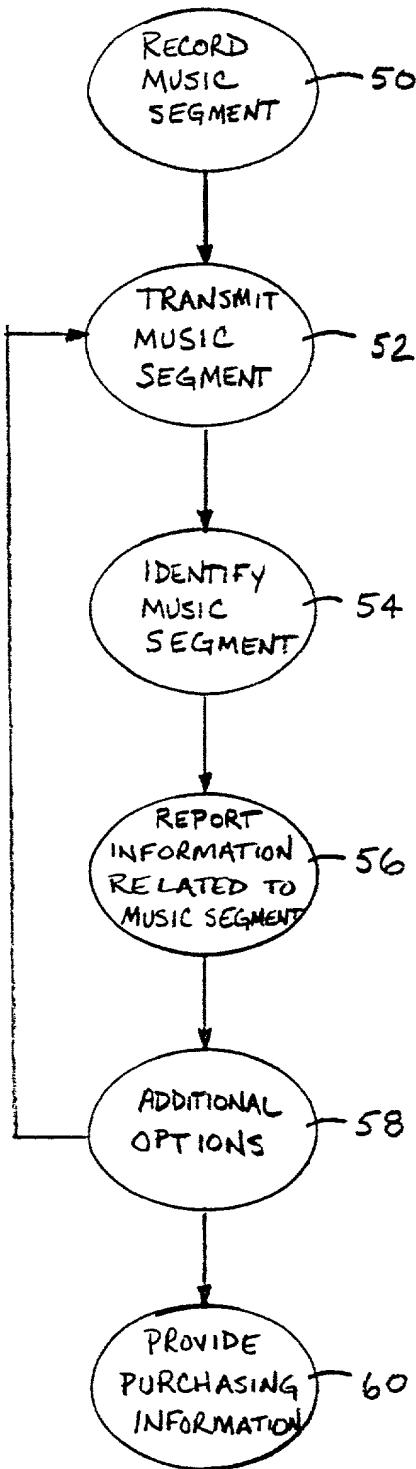


FIG. 4

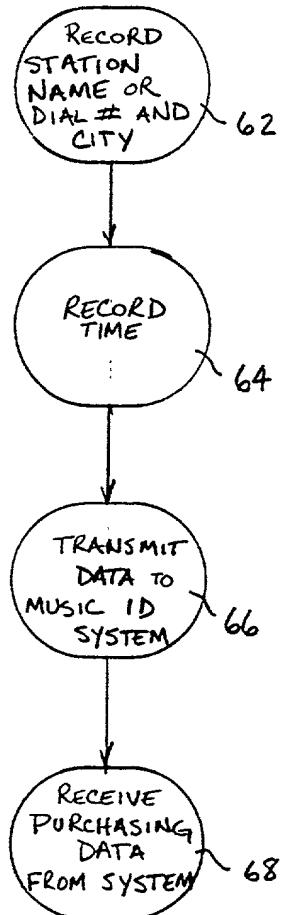


FIG. 5

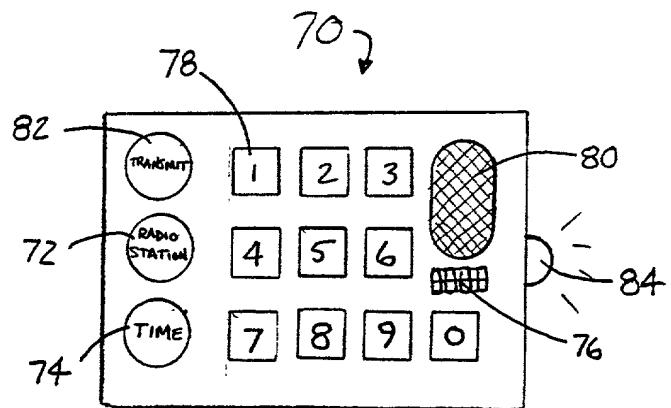


FIG 6